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REMARKS

The Applicant requests reconsideration of the rejection.

Claims 1-2, 4, 6-17, and 19-23 are pending.

Claims 1-2, 4, 6-17, and 10-17, and 19-23 were rejected

under 35 U.S.C. 103(a) as being unpatentable over Iwai, U.S.

6,683,703 (Iwai) and Kanematsu et al., U.S. 6,183,055

(Kanematsu). The Applicant traverses as follows.

Regarding Claim 1, the claim is directed to a multi-

function printer comprising a first data storage, a

classification executer, a second data storage, and a printer

executer.

Scan data is stored in the first data storage, with one

line of a scan operation corresponding to one line of the scan

data in the first data storage. Thus, at the outset, the

Applicant notes that Iwai, which is cited as disclosing the

claimed data storage, in fact does not disclose structure

corresponding to the claimed first data storage. The Examiner

states that the first data storage is found in Iwai's

photodiodes S1 to S7500, referring to column 10, lines 38-44.

Fundamentally, however, photodiodes are not data storage, but

light sensors. The passage in column 10 does not state to the

contrary but instead simply notes 4-channel output CCD 34

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constructed of the photodiodes S1 to S7500, shift gate 101,

shift gate 102, CCD analog shift registers 111-114, and output

buffers 121-124. Further, the passage does not mention that

one line of a scan operation corresponds to one line of the

scan data in anything corresponding to data storage. On this

basis alone, Claim 1 is patentably distinguishable from Iwai

in view of Kanematsu, because 1) Kanematsu is not cited as

teaching these features of the invention, and 2) Kanematsu

does not teach these features of the claimed invention, and

thus any combination with Iwai fails to render Claim 1

obvious.

In addition, the classificational executer reads out the

scanned data from the first data storage, the printer performs

printing by a plurality of print passes for one line of

printed image, and the classificational executer classifies

the scan data in compliance with the print passes. Further,

the second data storage stores the classified scan data in

compliance with the print passes.

This highlights another difference between Claim 1 and

the combination of Iwai and Kanematsu. Iwai is cited as

disclosing the classificational executer at CCD 34. However,

CCD 34 does not read out scan data from data storage. CCD 34

is a converter that converts image intensity sensed by the

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photodiodes into electrical charge corresponding to the

intensity. Further, Iwai is cited as disclosing the second

data storage at page memory 323. However, image data is

temporarily stored in page memory 323, but the image data

stored in the page memory has not been classified. Therefore,

the page memory 323 does not correspond to the second data

storage which stores classified scan data.

Kanematsu is cited as disclosing printing utilizing a

plurality of print passes, classifying data into compliance

with even and odd bit data and print passes, including a print

executer that reads out classified scan data from data storage

by each of the print passes, generates print image data having

a data format suitable for a print processing on the basis of

the read-out scan data without classifying the scan data, and

drives the print head of the printer on the basis of the print

image data in each of the print passes. The Examiner refers

to column 15, lines 19-24; MPU 401 and column 10, lines 23-28;

and column 7, line 59 through column 8, line 2 of Kanematsu.

Respectfully, however, Kanematsu teaches the creation of

random masks. Random number information for the random masks

are not scan data, and are not printed. In other words, one

does not and cannot classify random number information in

compliance with print passes. Therefore, Kanematsu does not

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disclose a classificational executer which reads out scan data

from a first data storage and classifies scan data in

compliance with print passes.

Further, as previously argued and as set forth in Claim

1, the print executer of the present invention reads out the

classified scan data from the second data storage by each of

the print passes, generates print image data having a data

format suitable for a print processing on the basis of the

read-out scan data without classifying the scan data, and

drives a print head of the printer on the basis of the print

image data in each of the print passes. In other words, the

print executer reads out the classified scan data, but does

not need to classify the scan data into each of the print

passes. As a result, higher-speed printing can be realized.

On the other hand, the print executer of Kanematsu must

classify the bit map data by a logical AND operation, as noted

by the Examiner on Page 3, Item 3(b). The Applicant is

puzzled by the Examiner's subsequent comment that the AND

operation "does not consist of placing things into groups and

categories based on the properties that can be identified."

Column 10, lines 23-26 of the patent state that the MPU 401

executes the logical AND operation between the bit map data

and the random masks for the first-pass recording. This

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logical AND operation is classification of the bit map data. Therefore, it is not true that Kanematsu discloses a print executer that generates print image data having a data format suitable for a print processing on the basis of the read-out scan data without classifying the scan data.

Noting the Examiner's comment on Page 2 of the Office Action, that one cannot show non-obviousness by attacking references individually, where the rejections are based on combinations of references, the Applicant reminds the Examiner that one can, indeed, show non-obviousness by attacking a reference individually if that reference does not teach or fairly suggest the claim limitation for which it is applied in the combination rejection. In other words, where Iwai and Kanematsu are individually applied for certain specific claim limitations, but are demonstrated not to teach those limitations, the combination rejection necessary fails. The Applicant respectfully submits that the above arguments demonstrate the failure of the combination of Iwai and Kanematsu to render obvious Claim 1.

Independent Claim 14 is also directed to a multi-function printer that includes a first data storage in which scan data scanned by the scanner is stored, wherein one line of scan operation of the scanner corresponds to one line of the scan

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data in the first data storage. Thus, Claim 14 is also

patentable over the combination of Iwai and Kanematsu.

Further, Claim 14 recites a classificational storing

section which reads out the scan data from the first data

storage and classifies the scan data according to an

appropriate data format for each time of the X times of the

movement of the print head in the main scan pass direction,

and which stores them in a second data storage. Neither Iwai

or Kanematsu, nor their combination, teaches such a

classificational storing section.

Claim 14 further recites a print image generator which

sequentially reads out the classified scan data from the

second data storage and generates a print image data on the

basis of the read-out scan data for every reading out without

classifying the scan data. As noted above, the combination of

Iwai and Kanematsu fails to teach the reading out of

classified scan data and generation of print image on the

basis of the scan data without classifying the scan data.

Finally, Claim 14 recites a print executer which executes

printing on the basis of the print image data generated by the

print image data generator. However, because the combination

does not teach the print image data generator, it necessarily

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does not teach a print executer that executes printing in accordance with the output of the print image data generator.

Independent Claims 19 and 20 are directed to control methods for a multi-function printer, including method steps corresponding to the functions performed by the structure distinguished above. Because Iwai and Kanematsu have been demonstrated not to disclose those functions, Claims 19 and 20 are also patentable.

Independent Claim 21 is directed to a multi-function printer that recites, among other features, a print executer that reads-out classified first data from a second data storage by each print pass, generates a print image data used for a print pass to be processed on the basis of classified first data in accordance with the print pass to be processed, and drives a print head of the printer on the basis of the print image data in each of the print passes. These features of the print executer have been distinguished above, and thus Claim 21 patentably defines over the combination.

Each of the dependent claims has separate patentability, but will not be discussed in the interest of brevity.

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In view of the foregoing amendments and remarks, Applicant respectfully request reconsideration of the rejection and allowance of the claims.

Respectfully submitted,

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Date: February 17, 2006

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